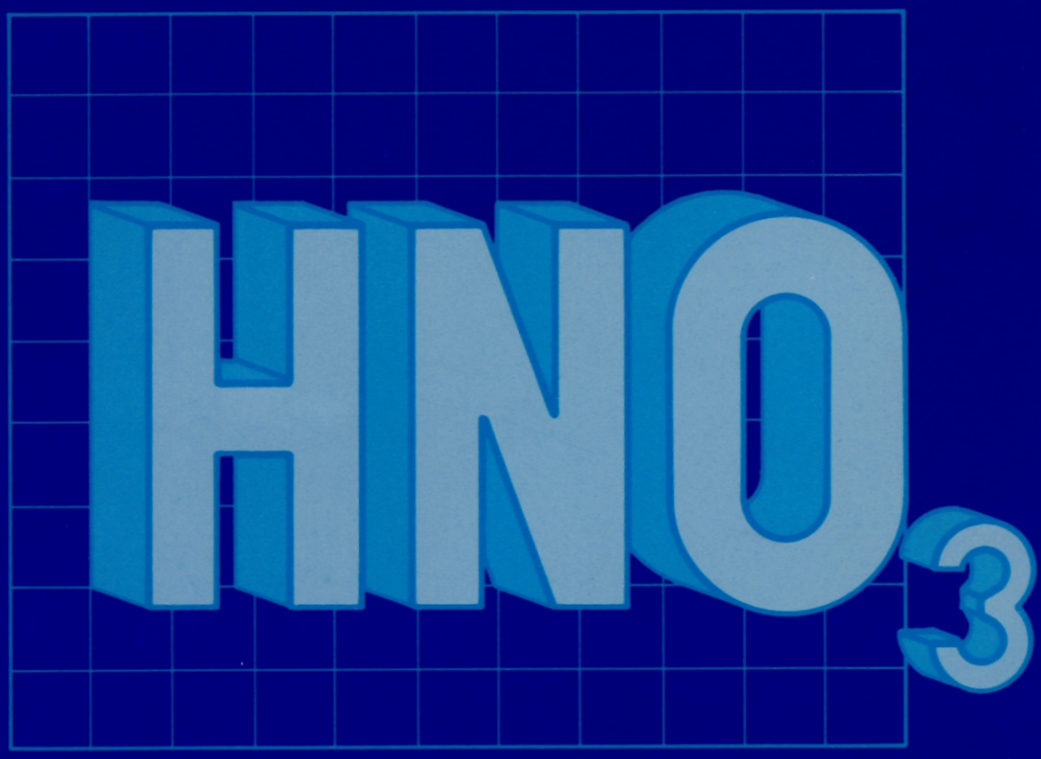
Zircadyne® Zirconium
The results are conclusive!

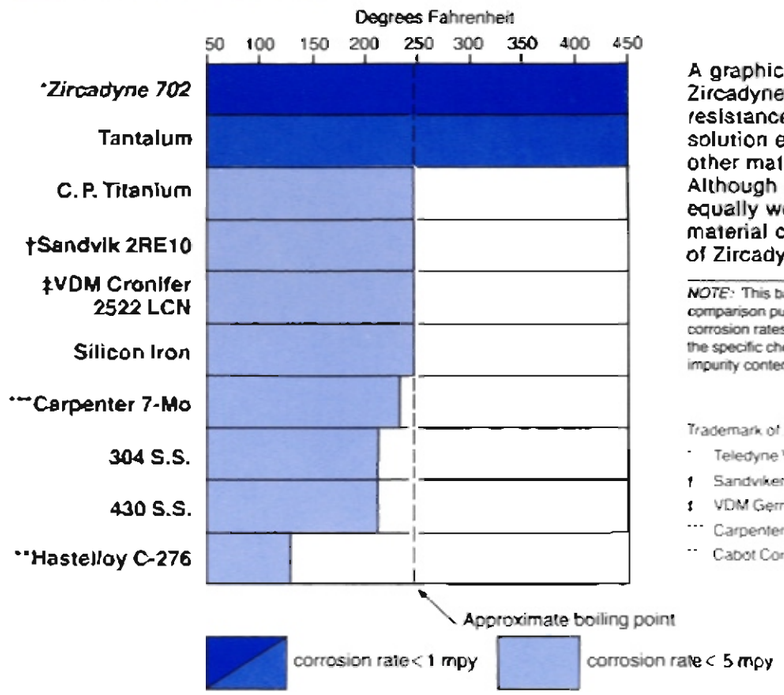


NO COMPARISON

Compare Zircadyne® 702's corrosion resistance with other materials currently used in nitric acid and the result is conclusive:

There is no comparison!!!

COMPARISON OF *ZIRCADYNE 702 WITH VARIOUS METALS IN 60-65% NITRIC ACID



A graphic display of Zircadyne® 's superior corrosion resistance in hot nitric acid solution environments, versus other materials of construction. Although tantalum performs equally well in nitric acid, its material cost is many times that of Zircadyne® 702.

NOTE: This bar graph is presented for comparison purposes only. Actual corrosion rates may vary depending on the specific chemical composition and impurity content of the media.

Trademark of
- Teledyne Wah Chang Albany
† Sandvikens Jernverks Aktiebolag
‡ VDM Germany
*** Carpenter Technology Corp
** Cabot Corporation

Zircadyne® 702 is an outstanding metal for use in nitric acid environments below 70% concentrations and temperatures up to 450 degrees F. In concentrations above 60% and temperatures above boiling, tantalum is the only metal that rivals zirconium's corrosion resistance. Zircadyne® 702 offers virtually the same benefits as tantalum, at a fraction of the cost. Research also indicates that zirconium alloys resist corrosion in nitric acid even with the addition of some impurities. Tests conducted in Teledyne Wah Chang Albany's Corrosion Laboratory showed that even 1% ferric chloride added to 65% HNO_3 at boiling did not significantly increase Zircadyne® 702's less than 1 mpy corrosion rate.

Reasons to consider Zircadyne®

1) Cost Effective.
   - *Reduced maintenance and downtime, combined with longer equipment life, make zirconium alloys more cost effective than competitive materials.*
2) Low Corrosion Rate.
   - *No need for corrosion allowance*
   - *No product contamination*
   - *Reduced fouling*
   - *Lower operational costs*
   - *Longer equipment life*
   - *Reduced downtime*
3) Higher Allowable Service Temperatures.
   - *Increased reaction rates*
   - *Higher throughputs*
   - *Increased yields*
4) Readily Available From Domestic Source.
5) Available In All Mill Forms.

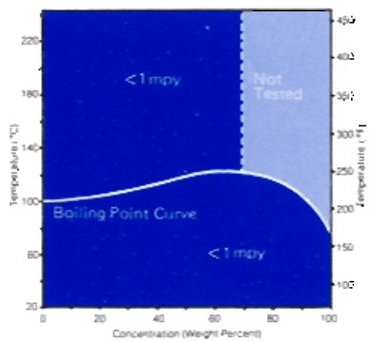
RELATIVE FABRICATION & MATERIAL COST

Material	Heat Exchanger
316 SS (UNS-S31600)	1.0
Ti, Grade 2 (UNS-R50400)	1.4
Inconel 600 (UNS-N06600)	1.8
Zircadyne 702 (UNS-R60702)	1.9-2.0
Hastelloy C-276 (UNS-N10276)	3.0
Hastelloy B-2 (UNS-N10665)	3.0

Webster, R.T. NACE Gulf Coast Corrosion Seminar (February 8-12, 1982) Houston, Texas

Teledyne Wah Chang Albany provides Zircadyne® alloys in all standard mill products, priced competitively. Two warehouse facilities ensure quick response to orders.

CORROSION OF ZIRCONIUM IN NITRIC ACID SOLUTIONS.



Zircadyne® 702's performance is equally impressive in many other corrosive environments. It resists corrosive attack in most organic and mineral acids, strong alkalis, and some molten salts. To test Zircadyne® 702 in a specific media, send for a free corrosion test kit. This kit allows the opportunity to check Zircadyne® 's performance under actual working conditions and environments.

For more information about Zircadyne® 702 and its many applications, call Teledyne Wah Chang Albany . . . producers of Zircadyne,® columbium, hafnium, titanium, tantalum and vanadium.

In a nitric acid application, nothing compares with Zircadyne® 702.

TELEDYNE WAH CHANG ALBANY

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